

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Greg Hupp

Serial Number: 10/672,534

Filed: September 26, 2003

For: AUTOMATIC POWER FOLDBACK FOR
AUDIO APPLICATIONS

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Group Art Unit: 2615

Examiner: Lun-See Lao

APPEAL BRIEF
37 C.F.R. §41.37

Dear Sir:

This Appeal Brief is submitted for the above-referenced matter.

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DOCKET NO.
TI-36552

PATENT APPLICATION
SERIAL NO. 10/672,534

Real Party in Interest
37 C.F.R. 41.37 (c)(1)(i)

The real party in interest in this application is the Assignee, Texas Instrument Incorporated, as reflected by the assignment records at Reel 014574 and Frame 0767.

Related Appeals and Interferences
37 C.F.R. 41.37(c)(1)(ii)

No related prior or pending appeals are before the Board of Patent Appeals and Interferences.

Status of the Claims
37 C.F.R. 41.37(c)(1)(iii)

Claims 1-9, 12, and 14-16 stand finally rejected and the specification stands as objected to for assertedly containing new matter as noted in the Final Action ("Final Action") mailed December 24, 2008 and the Advisory Action ("Advisory Action") dated March 12, 2009. Specifically, the objections and rejections are as follows:

- (1) The specification stands as object under 35 U.S.C. §132(a) as containing new matter;
- (2) Claim 2, 5, and 12 stands rejected under 35 U.S.C. §112, first paragraph, for assertedly failing to comply with the written description requirement;
- (3) Claims 1-4 stand rejected under 35 U.S.C. §102(c) in view of U.S. Patent No. 6,424,875 by Yoon et al. ("Yoon"); and
- (4) Claims 1-9, 12, and 14-16 stand rejected under 35 U.S.C. §103(a) in view of U.S. Patent Pub. No. 2001/0003166 by Gulick ("Gulick") and Yoon.

Accordingly, rejections of Claims 1-9, 12, and 14-16 and objection to the specification are appealed.

DOCKET NO.
TI-36552

PATENT APPLICATION
SERIAL NO. 10/672,534

Status of Amendments
37 C.F.R. 41.37(c)(1)(iv)

All amendments have been entered, and there are no amendments submitted herewith.

Summary of the Claimed Subject Matter
37 C.F.R. 41.37(c)(1)(v)

Claim 1 is an independent claim relating to a circuit for amplifying an audio source with Claims 2-4 depending thereon.

Claim 5 is an independent claim relating to a circuit for amplifying an audio source with Claims 6-9 depending thereon.

Claim 12 is an independent claim relating to a circuit for amplifying an audio source with Claims 14-16 depending thereon.

An explanation of the subject matter defined in each of the independent claims pending in the appeal referring to the specification follows.

| Claim | Limitation | Specification |
|--------------|--|--|
| 1 | A circuit for amplifying an audio source, the circuit comprising: | FIGS. 1-3c |
| | an audio pre-amplifier having volume control inputs, wherein the pre-amplifier receives the audio source and receives power from a power source; | FIG. 1-3c; and Paragraphs [0009], [0012], and [0017]. <i>See, e.g., "pre-amplifier circuit 12"</i> |
| | an audio amplifier connected to the pre-amplifier and the power source, the audio amplifier outputting an amplified audio signal; | FIG. 1-3c; and Paragraphs [0009], [0013], and [0017]. <i>See, e.g., "amplifier 20"</i> |
| | a power supervisory circuit that monitors power used by the audio amplifier and pre- | FIG. 1-3c; and |

| Claim | Limitation | Specification |
|-------|---|--|
| | amplifier; and | Paragraphs [0010], [0014], and [0017]. <i>See, e.g.,</i> “supervisory power circuit 34” |
| | a volume control circuit that activates at least one of the volume control inputs when the supervisory circuit detects the power used the pre-amplifier and audio amplifier is beyond a pre-determined limit. | FIG. 1-3c; and Paragraphs [0010], [0011], [0014], [0015], and [0017]. <i>See, e.g.,</i> “volume control circuit 36” |
| | | |
| 5 | An audio amplifier system for driving computer speakers from a bus port of a personal computer, the system comprising: | FIGS. 1-3c |
| | a DAC having volume control inputs and a bus interface, wherein the DAC is adapted to receive a digital audio signal through the bus interface and output an analog audio signal; | FIG. 1-3c; and Paragraphs [0009], [0012], and [0017]. <i>See, e.g.,</i> “pre-amplifier circuit 12” |
| | an audio amplifier that receives the analog audio signal from the DAC and outputs an amplified audio signal for driving speakers; | FIG. 1-3c; and Paragraphs [0009], [0013], and [0017]. <i>See, e.g.,</i> “amplifier 20” |

| Claim | Limitation | Specification |
|-------|---|--|
| | a power supervisory circuit that monitors power used by the audio amplifier and the DAC; and | FIG. 1-3c; and Paragraphs [0010], [0014], and [0017]. <i>See, e.g.,</i> “supervisory power circuit 34” |
| | a volume control circuit that activates at least one of the volume control inputs when the supervisory circuit detects the power used to drive the audio amplifier and DAC is beyond a pre-determined limit. | FIG. 1-3c; and Paragraphs [0010], [0011], [0014], [0015], and [0017]. <i>See, e.g.,</i> “volume control circuit 36” |
| | | |
| 12 | An audio amplifier system for driving computer speakers through a Universal Serial Bus (USB) port comprising: | FIGS. 1-3c |
| | a USB DAC having volume control inputs and a USB interface, wherein the USB DAC is adapted to receive a digital audio signal and output an analog audio signal, and wherein the USB DAC is adapted to receive power through the USB port; | FIG. 1-3c; and Paragraphs [0009], [0012], and [0017]. <i>See, e.g.,</i> “pre-amplifier circuit 12” |
| | an audio amplifier that receives the analog audio signal from the USB DAC and that outputs an amplified audio signal for driving speakers, wherein the audio amplifier is adapted to receive power through the USB port; | FIG. 1-3c; and Paragraphs [0009], [0013], and [0017]. <i>See, e.g.,</i> “amplifier 20” |

| Claim | Limitation | Specification |
|-------|--|--|
| | a power supervisory circuit that monitors power used by the audio amplifier and the USB DAC; and | FIG. 1-3c; and Paragraphs [0010], [0014], and [0017]. <i>See, e.g.,</i> “supervisory power circuit 34” |
| | a volume control circuit that activates at least one of the volume control inputs when the supervisory circuit detects the power used to drive the audio amplifier and the USB DAC is beyond a pre-determined limit. | FIG. 1-3c; and Paragraphs [0010], [0011], [0014], [0015], and [0017]. <i>See, e.g.,</i> “volume control circuit 36” |

Grounds of Rejection to be Reviewed on Appeal
37 C.F.R. 41.37(c)(1)(vi)

Applicant respectfully requests that the Board review the following errors:

- (1) objecting to the specification for containing new matter under 35 U.S.C. §132(a) because Applicant merely rephrased the text of paragraph [014];
- (2) rejecting Claims 2, 5, and 12 under 35 U.S.C. §112, first paragraph, for assertedly failing to comply with the written description requirement because Applicant was clearing in possession of the invention and did not add new matter;
- (3) rejecting Claims 1-4 under 35 U.S.C. §102(e) in view of Yoon because Yoon does not disclose each and every claimed feature; and
- (4) rejecting Claims 1-9, 12, and 14-16 under 35 U.S.C. §103(a) in view of Gulick and Yoon because Yoon and Guilck (singularly or in combination) disclose each and every feature claimed.

Arguments
37 C.F.R. 41.37(c)(vii)

I. Applicant merely rephrased a portion of the specification

According to MPEP §2163.07(I), “[m]ere rephrasing of a passage does not constitute new matter.” Here, paragraph [014], as originally filed, reads as follows (with emphasis added):

[0014] Power for the circuits is provided by the power bus 116. A supervisory power circuit 134 monitors the power used by the circuit including the audio amplifier. The supervisory power circuit 134 signals the volume control circuit 136 when power sags or exceeds the specified limit. In this embodiment, the supervisor circuit monitors the voltage level. In this embodiment, the supervisor power circuit is a TPS3825 part supplied by Texas Instruments Inc.

Clearly, the underlined sentence indicates that “the supervisory power circuit 34 signals the volume control circuit 36” in two separate situations: (1) “when power sags”; and (2) “when power...exceeds the specified limit.” In other words, “the supervisory circuit 34 signals the volume control circuit when” (1) the power sags below a predetermined limit or threshold, and (2) the power exceeds the specified or predetermined limit. As a result, by amending the underlined sentence to read that “[t]he supervisory power circuit 134 signals the volume control circuit 136 when power sags below a pre-determined limit or threshold or when the power exceeds the specified or pre-determined limit,” Applicant has “merely rephrased” the passage, which does not constitute new matter. Accordingly, Applicant respectfully requests that the Examiner’s objection to the specification be reversed.

II. Claims 2, 5, and 12 comply with the Written Description Requirement

1. CLAIM 2

According to MPEP§2163.02, “[a]n objective standard for determining compliance with the written description requirement is, ‘does the description clearly allow persons of ordinary skill in the art to recognize that he or she invented what is claimed.’” *See In re Gosteli*, 872 F.2d 1008, 1012, 10 USPQ2d 1614, 1618 (Fed. Cir. 1989). Bearing this in mind regarding Claim 2, paragraph [0011] reads as follows (with emphasis added):

[0011] The volume control circuit 36 inputs from the power supervisor circuit an indication of an over power limit state. The volume control circuit then outputs to the pre-amplifier circuit a signal that connects to the volume control of *the pre-amplifier 12*. The volume control circuit then adjusts the volume lower until indicated by the supervisory circuit 34.

Additionally, FIG. 1 of the Application, as originally filed shows reference numeral 12 as a “USB DAC.” Clearly, in paragraph [0011], the pre-amplifier is reference numeral 12, and reference numeral 12 in FIG. 1 is a “USB DAC.” Additionally, simply because the specification states that pre-amplifier circuit 12 “may include a DAC” does not mean that the pre-amplifier cannot be a DAC as the Examiner suggests. Therefore, the written description would clearly convey to one of ordinary skill in the art that “pre-amplifier is a Digital-to-Analog Converter (DAC)” as recited in Claim 2. Accordingly, Applicant respectfully requests that the Examiner’s rejection of Claim 2 under 35 U.S.C. §112, first paragraph, be reversed.

2. CLAIMS 5 AND 12

Regarding Claims 5 and 12, according to MPEP§2163.02, “[a]n objective standard for determining compliance with the written description requirement is, ‘does the description clearly allow persons of ordinary skill in the art to recognize that he or she invented what is claimed.’” *See In re*

Gosteli, 872 F.2d 1008, 1012, 10 USPQ2d 1614, 1618 (Fed. Cir. 1989). Bearing this in mind, paragraph [0010] reads as follows (with emphasis added):

[0010] Power for the circuits is provided by the power bus 16. Optionally, power can be supplied by a DC power input circuit 28. In this case, a load control circuit 29 is connected to the DC power input 30, and a supply selection 32 is made if there is power available from the DC input. (However, in the preferred embodiments described in more detail below, the advantage of the present invention is primarily achieved when the DC power input is not used and power is supplied by the USB power bus.) A supervisory power circuit 34 monitors the power used by the entire circuit, or that supplied to the audio amplifier. The supervisory power circuit 34 signals the volume control circuit 36 when power sags or exceeds the specified limit. The supervisor circuit may monitor the voltage level or current used.

As stated, the “supervisory power circuit 34 monitors the power used by the entire circuit.” As a result it is clear that the USB DAC 12 of FIG. 1 would be part of the “entire circuit.” Additionally, the “supervisory power circuit 34 signals the volume control circuit 36 when power...exceeds the specified limit.” Thus, because supervisory power circuit monitors the power used by “entire circuit” (which DAC 12 belongs) and indicates when the power used “exceeds the specified limit,” it is abundantly clear that written description supports Claims 5 and 12. Accordingly, Applicant respectfully requests that the Examiner’s rejections of Claims 5 and 12 under 35 U.S.C. §112, first paragraph, be reversed.

III. Claim 1 is NOT anticipated by Yoon

“[I]n order to demonstrate anticipation, the proponent must show “that the four corners of a single, prior art document describe every element of the claimed invention.” *NetMoneyIn, Inc. v. Verisign et al.*, No. 07-1565, slip op. at 14, (Fed. Cir. October 20, 2008) (internal citation omitted). “Because the hallmark of anticipation is prior invention, the prior art reference—in order to

anticipate under 35 U.S.C. § 102—must not only disclose all elements of the claim within the four corners of the document, but must also disclose those elements ‘arranged as in the claim.’” *Id.* This means “that the ‘arranged as in the claim’ requirement applies to all claims and refers to the need for an anticipatory reference to show all of the limitations of the claims arranged or combined in the same way as recited in the claims, not merely in a particular order.” *Id.* at 15-16. Therefore, a reference must disclose each and every element of a claim “arranged or combined in the same way as in the claim.” *Id.* at 16.

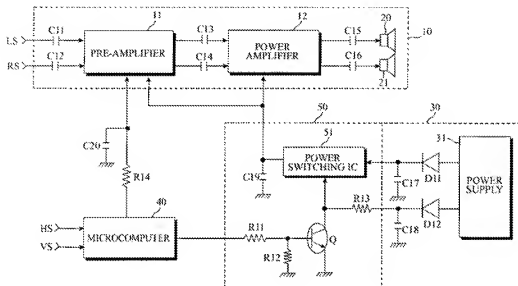
In the Final Action (at pages 5), the Examiner asserts that Yoon discloses the claimed arrangement of a volume control circuit. Specifically, the Examiner asserts that the microcomputer (40) of Yoon corresponds to the volume control circuit. However, this analysis simply does not comport with the disclosure of Yoon. Looking to Col. 6, ll. 3–6, Yoon specifically described the operation of microcomputer (40), stating:

Also, the volume control signal from the microcomputer 40 is applied to the pre-amplifier 11 through the resistor R14, thereby allowing the pre-amplifier 11 to adjust the volumes of the L and R channel audio signals LS and RS.

Additionally, at Col. 5, ll. 34-39, Yoon describes the operation of the asserted power supervisory circuit of power switching device (50) and power supply circuit (30), stating:

A power switching device 50 is operated under the control of the microcomputer 40 to supply the operating power from the power supply circuit 30 to the audio processor 10 in normal and standby modes and to block the operating power from the power supply circuit 30 to the audio processor 10 in suspend and power off modes.

Moreover, the construction of this circuit can be seen in FIG. 2 below:



Thus, it is clear from the description there is *no* communication between power switching device (50)/power supply circuit (30) and the microcomputer (40) related to power usage detected by the asserted power supervisory circuit of power switching device (50)/power supply circuit (30). Microcomputer (40) merely provides volume adjustments independent of any assertedly detected power usage, so asserted volume control circuit (microcomputer 40) *cannot* “activate[] at least one of the volume control inputs when the supervisory circuit detects the power used the pre-amplifier[, DAC, or USB DAC] and audio amplifier is beyond a pre-determined limit” as claimed. (Emphasis added.) Therefore, Yoon disclose each and every limitation of Claims 1, arranged in the same way as in Claim 1. Therefore, the rejection of Claims 1 under 35 U.S.C. §102(e) in view of Yoon cannot be maintained.

Applicant respectfully requests that the Examiner’s rejection of Claim 1 under 35 U.S.C. §102(e) in view of Yoon be reversed.

IV. Claims 1, 5, and 12 Are NOT Obvious

Similar to anticipation, a *prima facie* case of obviousness can only be established if each and every limitation is taught by the references. *See, e.g.*, MPEP §2143.03. However, Yoon and Gulick do not disclose each and every claimed feature of Claims 1, 5, and 12. Specifically, at pages 7-10 of the Final Action, the Examiner asserts that that Yoon (and not Gulick) discloses the claimed arrangement of a volume control circuit of Claims 1, 5, and 12; therefore, Applicant's arguments in section III above apply with equal force here, clearly establishing that Yoon and Gulick do not disclose each and every feature of Claims 1, 5, and 12. Accordingly, Applicant respectfully requests that the Examiner's rejection of Claims 1, 5, and 12 under 35 U.S.C. §103(a) in view of Yoon and Gulick be reversed.

V. Dependent Claims 2-4, 6-9, and 14-16

Claims 2-4, 6-9, and 14-16 depends on and further limit Claims 1, 5, or 12. Hence, for at least the aforementioned reasons, these Claims should be deemed to be in condition for allowance. Applicant respectfully requests that the rejections of dependent Claims 2-4, 6-9, and 14-16 also be withdrawn.

VI. Conclusion

Applicant has now made an earnest attempt to place this Application in condition for allowance. For the foregoing reasons and for other reasons clearly apparent, Applicant respectfully requests full allowance of Claim 1-9, 12, and 14-16.

Applicant has included a payment in the amount of \$540 to cover fee for an appeal brief. In the event that any other fees are due, the Commissioner is hereby authorized to charge any required

fees due (other than issue fees), and to credit any overpayment made, in connection with the filing of this paper to Deposit Account 20-0668 of Texas Instruments Incorporated.

Should the Examiner require any further clarification to place this application in condition for allowance, the Examiner is invited to telephone the undersigned at the number listed below.

Respectfully submitted,

/John J. Patti/

Dated: May 7, 2009

John J. Patti
Reg. No. 57,191
Texas Instruments Incorporated
P.O. Box 655474, M/S 3999
Dallas, Texas 75265
Phone: (972)917-4144

Claims Appendix
37 C.F.R. §41.37(c)(viii)

1. A circuit for amplifying an audio source, the circuit comprising:
an audio pre-amplifier having volume control inputs, wherein the pre-amplifier receives the audio source and receives power from a power source;
an audio amplifier connected to the pre-amplifier and the power source, the audio amplifier outputting an amplified audio signal;
a power supervisory circuit that monitors power used by the audio amplifier and pre-amplifier; and
a volume control circuit that activates at least one of the volume control inputs when the supervisory circuit detects the power used the pre-amplifier and audio amplifier is beyond a pre-determined limit.
2. The circuit of claim 1 wherein the pre-amplifier is a Digital-to-Analog Converter (DAC).
3. The circuit of claim 1 wherein the volume control inputs are digital.
4. The circuit of claim 1 wherein the supervisory circuit detects whether a supply voltage to the amplifier falls below a pre-determined threshold.
5. An audio amplifier system for driving computer speakers from a bus port of a personal computer, the system comprising:
a DAC having volume control inputs and a bus interface, wherein the DAC is adapted to receive a digital audio signal through the bus interface and output an analog audio signal;
an audio amplifier that receives the analog audio signal from the DAC and outputs an amplified audio signal for driving speakers;
a power supervisory circuit that monitors power used by the audio amplifier and the DAC;
and

a volume control circuit that activates at least one of the volume control inputs when the supervisory circuit detects the power used to drive the audio amplifier and DAC is beyond a pre-determined limit.

6. The system of claim 5 wherein the power used by the system is supplied over the bus port.

7. The system of claim 5 wherein the volume control inputs are adapted to be actuated by the user, and wherein the volume control circuit overrides a user actuation of the volume control inputs when the supervisory circuit detects the power signal used to drive the power supply input of the audio amplifier is beyond the pre-determined limit.

8. The system of claim 5 wherein the volume control inputs are digital.

9. The system of claim 5 wherein the supervisory circuit detects whether a supply voltage used to drive the audio amplifier falls below a pre-determined threshold.

10-11. (Cancelled)

12. An audio amplifier system for driving computer speakers through a Universal Serial Bus (USB) port comprising:

a USB DAC having volume control inputs and a USB interface, wherein the USB DAC is adapted to receive a digital audio signal and output an analog audio signal, and wherein the USB DAC is adapted to receive power through the USB port;

an audio amplifier that receives the analog audio signal from the USB DAC and that outputs an amplified audio signal for driving speakers, wherein the audio amplifier is adapted to receive power through the USB port;

a power supervisory circuit that monitors power used by the audio amplifier and the USB DAC; and

a volume control circuit that activates at least one of the volume control inputs when the supervisory circuit detects the power used to drive the audio amplifier and the USB DAC is beyond a pre-determined limit.

13. (Cancelled)

14. The system of claim 12 wherein the volume control inputs are adapted to be actuated by the user, and wherein the volume control circuit overrides a user actuation of the volume control inputs when the supervisory circuit detects the power signal provided by the power input of the bus port connection is beyond the pre-determined limit.

15. The system of claim 12 wherein the volume control inputs are digital.

16. The system of claim 12 wherein the supervisory circuit detects whether a supply voltage used to drive the audio amplifier falls below a pre-determined threshold.

17-18. (Cancelled)

Evidence Appendix

37C.F.R. §41.37(c)(ix)

None.

Related Proceedings Appendix

37C.F.R. §41.37(c)(x)

None.